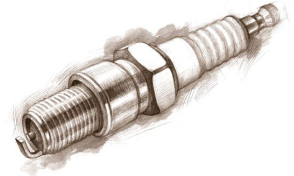


Power Mechanics 9/10



~ Course Outline ~

This course is a short introduction to an invention that has without a doubt revolutionized our world, the Internal Combustion Engine. As we work through the course you should keep in mind that although we may take its presence for granted the internal combustion engine has only been with us for a very short period of time.

When studying a subject it is often nice to be able to envision the 'Big Picture'. This is the purpose of the list below, it allows you to quickly see where we are in the course, where we've been and where we intend to go.

1. Building General Knowledge
 - Shop Safety
 - Knowing Common Hand Tools and how to use them
 - Measuring in Metric and Imperial using a ruler, tape measure, calipers, etc.

2. Operation of the 4-stroke Engine
 - Theory and operation of the 4-stroke engine
 - Common Maintenance
 - Engine Displacement
 - Carburetors
 - Compression ratio/Testing
 - Pistons, rings & connecting rods
 - Valves
 - Engine cooling & ignition systems
 - Spark Plug & Magneto Output
 - Governors
 - Engine Starting & Tuning

3. Using Computers & Software to help design/make things.
 - Fusion Software to draw gaskets/sheet metal layouts
 - Laser Cutter to cut gaskets out

4. Project/Competition - Building and Electric Sheet Metal Car

Participation/Responsibility

- Enthusiastic participation is a critical requirement of students in this course. Enthusiasm however can sometimes get out of hand, so I must state that your enthusiasm should be tempered with a mature attitude.
- You must be prepared to conduct yourself in a safe manner at all times.
- Respect for the school's tools and equipment is important
- Accidents can happen, let the instructor know if something happens.
- If you are in doubt or not sure what to do, ask the instructor.
- If a student is absent, it is his/her responsibility to make-up missed work. All materials and assignments can be found here learn71.ca/highland-wood-tech/
- You will need a PENCIL and ear buds (NOT your cell phone) for many classes.
- Above all, it is imperative that you will respect the nature of the learning environment and the rights of all students to experience this learning environment in a pleasant, non-threatening and supportive way.

Course Evaluation

- | | |
|-------------------------|-----|
| • 4 Stroke Engine Labs | 40% |
| • Projects/Assignments | 50% |
| • Theory/Safety/Quizzes | 10% |

Clean Up

Last but **definitely** not least is the matter of clean up. This is not a fast food restaurant, nor is it your home! No one is here to clean up after you except **YOU!** Please leave the shop spotless and put all tools back in their rightful places so you and others may enjoy a pleasant environment in which to both work and learn. Until it is clean, we don't leave!

Enjoy the course!!

